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PATENT
514413-3669

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants	:	Donn *et al.*
Serial No.	:	09/155,921
Filed	:	May 13, 1999
For	:	*PROCESS FOR THE PRODUCTION OF PLANTS WITH ENHANCED GROWTH CHARACTERISTICS*
Examiner	:	P. Brunovskis
Group Art Unit	:	1632

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Name of Applicant, Assignee or Registered Representative

Signature

June 11, 2003

Date of Signature

PRELIMINARY SUBMISSION

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

A Continued Prosecution Application (CPA) pertaining to the above-referenced application was filed on April 25, 2003. It is requested that the following remarks be considered prior to the issuance of a first Office Action in the CPA. These remarks are further to the Amendment After Final, filed on March 20, 2003, and in response to the April 8, 2003 Advisory Action.

REMARKS

Claims 9 and 11-16 are pending in this application. Reconsideration and withdrawal of the rejections of the pending claims are requested in view of the herein remarks and arguments. The Examiner is thanked for indicating in the Advisory Action that the Amendment After Final, filed on March 20, 2003, overcomes the rejection under 35 U.S.C. §112, second paragraph.

No New Matter Has Been Added

The Advisory Action asserted that basis in the specification with respect to Wasmann et al. is unclear, and that the pNi5125 vector is not found in Figure 5 of Wasmann. The Examiner is thanked for drawing attention to a typographical error in the Amendment After Final. The reference should be to the pNi6/25 vector, the sequence of which is depicted in Figure 5 of Wasmann. This publication, with specific reference to the pNi6/25 vector, was cited on page 15, lines 2-3, of the application as filed. That paragraph was amended on May 23, 2002 to read as follows:

> The nucleotide sequence of the modified transit peptide from the small subunit of Ribulosebiphosphate Carboxylase from pea was isolated from the vector pNi6/25 (Wasmann, C.C. et al (1986) Mol. Gen. Genet. 205: 446-453) as a Hind3/Sph1 fragment. As described by Wasmann et al., the pNi6/25 vector was derived by cloning *Eco*RV-*Bam*HI fragments containing the modified transit peptide sequence into a vector fragment produced from ptac/TPNPTII by digestion with *Eco*RV and *Bam*HI. The ptac/TPNPTII vector was derived from pTPK1, which was constructed by ligating an *Eco*RI-*Bam*HI vector fragment from pKM109/15 with the *Hin*dIII-*Bam*HI fragment of pTP2 that contains the transit peptide coding sequence and the *Eco*RI-*Hin*dIII fragment of ptac12/Hind that carries the *tac* promoter. pKM109/15 contains the NPTII gene with an upstream *Bam*HI site. Plasmid pTP2 was derived from pTP1, which carries the *Eco*RI-*Sph*I fragment of pPSR6 (Cashmore, (1983) In: Genetic engineering of plants - An agricultural perspective; Ed. Kosuge et al. Plenum Publishing, NY, pp. 29-38) that codes for the promoter and transit peptide of the small subunit in pBR327 (Soberon et al. (1980), Gene 9:287-305). The modified transit peptide (SEQ ID NO: 3) contains a duplication of 20 amino acids compared to the natural transit peptide (SEQ ID NO: 4). The 20 amino acid duplication results in increased transport into chloroplasts over that observed with the natural transit peptide (Wasmann et al.).

All documents cited in the application were incorporated into the application by reference in the last paragraph on page 1 of the specification. Therefore, no insertion of material into the application that is taken directly from Wasmann can be considered new matter.

Wasmann is part of Example 1 of the instant application, in which the fusion of a bacterial asparagine synthetase gene to the nucleotide sequence for a duplicated chloroplast

transit peptide is described. The given vector, pNi6/25, from Figure 5 of Wasmann clearly identifies the sequence of the present chloroplast leader peptide, which was used for the formation of a duplicated transit peptide as described in Example 1.

As stated in the above paragraph from the application, the fragment used for cloning this chloroplast leader peptide sequence was a HindIII/SphI fragment, with a reference in the text to Wasmann. Upon review of Wasmann, particularly page 447, it would be clear to one of skill in the art how the Wasmann plasmids were constructed and how to obtain/isolate the intended fragment from such a plasmid.

The Rejections Under 35 U.S.C. §112, 1st Paragraph, Are Overcome

Claims 14-16 were rejected as allegedly lacking adequate written description and claims 9 and 11-16 were rejected as allegedly lacking enablement. In view of the above explanation and the arguments presented in the Amendment After Final, these rejections are believed to be overcome.

Specifically, the written description rejection has been addressed by the recitation of SEQ ID NO:5 in claim 14. Further, claim 15 was amended in the May 23, 2002 Amendment to depend from claim 13, rather than claim 14, so it is believed that claim 15 was inadvertently included in this rejection.

All of the claims are enabled by the specification. The claims are limited to genes and processes involving prokaryotic ammonium-specific asparagine synthetase type A. The art of cloning genes, at the time the application was filed, was not unpredictable, as asserted by the Examiner. The skilled artisan could easily extrapolate from the teachings in the application and in the art to isolate ammonium-specific asparagine synthetase type A genes from prokaryotic organisms other than *E. coli*. The Examiner has offered no evidence to the contrary, and there is no reason to believe that a gene identified and isolated from *E. coli* could not routinely be identified and isolated from other prokaryotes as well.

Consequently, reconsideration and withdrawal of the rejections under 35 U.S.C. §112, first paragraph, are requested.

The Rejection Under 35 U.S.C. §103 Is Overcome

Claims 9, 11-13 and 16 were rejected under 35 U.S.C. §103(a), as allegedly being unpatentable over Coruzzi *et al.* (AG), in view of Dudits *et al.* (AH), Temple *et al.* (AP), and

Della-Cioppa *et al.* Applicants assert that none of the cited references, either alone, or in any fair combination, serve to teach or suggest the presently claimed invention.

It is requested that the Examiner reconsider this rejection in view of the claim amendments and arguments presented in the Amendment After Final. Withdrawal of this rejection is believed to be in order, and such action is requested.

CONCLUSION

In view of the remarks herein and in the Amendment After Final, filed on March 20, 2003, the application is believed to be in condition for allowance. Favorable reconsideration of the application and prompt issuance of a Notice of Allowance are earnestly solicited. The undersigned looks forward to hearing favorably from the Examiner at an early date.

Respectfully submitted,

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